In the Claims:

1. (original) A method of processing speech comprising:

obtaining an input speech signal;

decomposing said input speech into a voiced portion and a noise portion using an adaptive separation component;

processing said voiced portion of said input speech to obtain a first set of parameters using analysis by synthesis approach; and

processing said noise portion of said input speech to obtain a second set of parameters using open loop approach.

2. (original) The method of claim 1, wherein said input speech signal excludes background noise.

3. (original) The method of claim 1, wherein said separation component is a lowpass filter.

4. (original) The method of claim 3, wherein bandwidth of said lowpass filter is dependent upon a characteristic of said input speech.

5. (original) The method of claim 4, wherein said characteristic of said input speech is pitch correlation.

6. (original) The method of claim 4, wherein said characteristic of said input speech is

gender of a person uttering said input speech.

7. (original) The method of claim 1, wherein said analysis by synthesis approach is a Code Excited Linear Prediction (CELP) process.

8. (original) The method of claim 1, wherein said first set of parameters comprises pitch of said voiced portion of said input speech.

9. (original) The method of claim 1, wherein said first set of parameters comprises excitation of said voiced portion of said input speech.

10. (original) The method of claim 1, wherein said first set of parameters comprises energy of said voiced portion of said input speech.

11. (original) The method of claim 1, wherein said second set of parameters comprises characteristics of a voicing index of said input speech.

12. (currently amended) The method of claim 1, further comprising:

transmitting information regarding said first set of parameters to ~~said~~ a decoder device.

13. (original) The method of claim 12, wherein said decoder device uses said information regarding said first set of parameters to synthesize said voiced portion of said input speech.

14. (original) The method of claim 13, further comprising:

transmitting information regarding said second set of parameters to said decoder device.

15. (original) The method of claim 14, wherein said decoder device uses said information regarding said second set of parameters to synthesize said noise portion of said input speech.

16. (original) The method of claim 1, further comprising:

transmitting a voicing index to said decoder device for synthesizing said input speech.

17. (original) An apparatus for processing speech comprising:

an input speech signal;

an adaptive separation module for separating said input speech into a voiced portion and a noise portion;

an analysis-by-synthesis module for processing said voiced portion of said input speech to obtain a first set of parameters; and

an open loop analysis module for processing said noise portion of said input speech to obtain a second set of parameters.

18. (original) The apparatus of claim 17, wherein said input speech signal excludes background noise.

19. (original) The apparatus of claim 17, wherein said separation module is a lowpass filter.

20. (original) The apparatus of claim 19, wherein bandwidth of said lowpass filter is dependent on a characteristic of said input speech.

21. (original) The apparatus of claim 20, wherein said characteristic of said input speech is pitch correlation.

22. (original) The apparatus of claim 20, wherein said characteristic of said input speech is gender of a person uttering said input speech.

23. (original) The apparatus of claim 17, wherein said analysis-by-synthesis processor is a Code Excited Linear Prediction (CELP) process.

24. (original) The apparatus of claim 17, wherein said first set of parameters comprises pitch of said voiced portion of said input speech.

25. (original) The apparatus of claim 17, wherein said first set of parameters comprises excitation of said voiced portion of said input speech.

26. (original) The apparatus of claim 17, wherein said first set of parameters comprises energy of said voiced portion of said input speech.

27. (original) The apparatus of claim 17, wherein said second set of parameters comprises characteristics of a voicing index of said input speech.

28. (currently amended) The apparatus of claim 17, further comprising:

a first transmitting module for sending information regarding said first set of parameters to ~~said~~ a decoder device.

29. (original) The apparatus of claim 28, wherein said decoder device uses said information regarding said first set of parameters to synthesize said voiced portion of said input speech.

30. (original) The apparatus of claim 29, further comprising:

a second transmitting module for sending information regarding said second set of parameters to said decoder device.

31. (original) The apparatus of claim 30, wherein said decoder device uses said information regarding said second set of parameters to synthesize said noise portion of said input speech.

32. (original) The apparatus of claim 17, further comprising:

a transmitting module for sending a voicing index to said decoder device for synthesizing said input speech.

33. (original) An apparatus for synthesizing speech comprising:

a first module for obtaining a first set of parameters regarding a voiced portion of an input speech signal;

a second module for obtaining a second set of parameters regarding a noise portion of said input speech signal;

a third module for synthesizing said voiced portion of said input speech signal from said first set of parameters;

a fourth module for synthesizing said noise portion of said input speech signal from said second set of parameters; and

a fifth module for combining said synthesized voiced portion and said synthesized noise portion to produce a synthesized version of said input speech.

34. (original) The apparatus of claim 33, wherein said first set of parameters comprises pitch of said voiced portion of said input speech.

35. (original) The apparatus of claim 33, wherein said first set of parameters comprises excitation of said voiced portion of said input speech.

36. (original) The apparatus of claim 33, wherein said first set of parameters comprises energy of said voiced portion of said input speech.

37. (original) The apparatus of claim 33, wherein said second set of parameters comprises characteristics of a voiced index of said input speech.

38. (original) The apparatus of claim 33, wherein said second set of parameters comprises characteristics of a lowpass filter used for separating said voiced portion and said noise portion of said input speech at source of said noise portion.

39. (original) The apparatus of claim 33, wherein said synthesized noise portion is estimated.

40. (original) A method for synthesizing speech comprising:

obtaining a first set of parameters regarding a voiced portion of an input speech signal;

obtaining a second set of parameters regarding a noise portion of said input speech signal;

synthesizing said voiced portion of said input speech signal from said first set of parameters;

synthesizing said noise portion of said input speech signal from said second set of parameters; and

combining said synthesized voiced portion and said synthesized noise portion to produce a synthesized version of said input speech.

41. (original) The method of claim 40, wherein said first set of parameters comprises pitch of said voiced portion of said input speech.

42. (original) The method of claim 40, wherein said first set of parameters comprises excitation of said voiced portion of said input speech.

43. (original) The method of claim 40, wherein said first set of parameters comprises energy of said voiced portion of said input speech.

44. (original) The method of claim 40, wherein said second set of parameters comprises characteristics of a voicing index of said input speech.

45. (original) The method of claim 40, wherein said second set of parameters comprises characteristics of a lowpass filter used for separating said voiced portion and said noise portion of said input speech at source of said noise portion.

46. (original) The method of claim 40, wherein said synthesized noise portion is estimated.

47. (new) The method of claim 1, further comprising transmitting a voicing index to a decoder, wherein said voicing index provides filter cut-off frequency for signal decomposition.

48. (new) The method of claim 1, wherein said filter cut-off frequency is communicated to said decoder using a plurality of bits in said voicing index to indicate to said decoder which filter to use for said signal decomposition.

49. (new) The method of claim 47, wherein said voicing index defines a plurality of low pass filters.

50. (new) The apparatus of claim 17, wherein a voicing index is transmitted to a decoder, wherein said voicing index provides filter cut-off frequency for signal decomposition.

51. (new) The apparatus of claim 17, wherein said filter cut-off frequency is communicated to said decoder using a plurality of bits in said voicing index to indicate to said decoder which filter to use for said signal decomposition.

52. (new) The apparatus of claim 51, wherein said voicing index defines a plurality of low pass filters.